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REMARKS

The patent application was originally filed with Claims 1-57. Claims 1-19, 36-49 and 51-57 were previously canceled, without prejudice, as being directed to a non-elected invention. Claims 20-35 and 50 are pending and are rejected. Reconsideration and allowance of Claims 20-35 and 50 in light of the remarks below are respectfully requested.

Claims 20-22, 25, 28, 31 and 50 were rejected under 35 USC 102(a) as being anticipated by Goldberg et al. (USPN 6,203,989 B1, March 20, 2001). The Examiner contended that Goldberg et al. teach a method of high temperature hybridization in a microarray of oligonucleotides bound to an adsorbed polymer surface on a siliceous substrate with a nucleic acid material, as claimed in Applicant's Claims 20-22, 25, 28, 31 and 50. The Examiner referred to the Abstract, Column 3, lines 33-39, and Column 14, lines 13-30, of USPN 6,203,989 B1 in support of this rejection. The Examiner contended that although Goldberg et al. disclose using a silane coating to bind the nucleotides in some embodiments, Goldberg et al. also teach that combinations of polytetrafluorethylene and silicon oxides or other surfaces, which are well known in the art to be capable of inherently being adsorbed on each other, can be used as a nucleic acid binding surface. The Examiner referred to Column 3, lines 35-39 and Claim 20 for support of this contention. Applicant respectfully traverses this rejection and earnestly requests reconsideration for the reasons set forth below.

At issue appears to be the materials disclosed by Goldberg et al. at Column 3, lines 34-39 of USPN 6,203,989 B1. Goldberg et al. actually disclose at Column 3, lines 34-39 "In one embodiment, the nucleic acid probe is immobilized on a surface. The surface may be, for example, Langmuir Blodgett film, glass, germanium, silicon, (poly)tetrafluorethylene, polystyrene, gallium arsenide, gallium phosphide, silicon oxide, silicon nitride, and combinations thereof". The materials disclosed by Goldberg et al. are well known to the skilled artisan as typical 'substrate' or 'solid surface' materials that can be used as a nucleic acid binding surface. See for example, Applicant's specification, page 12, line 3, to page 13, line 13, for the definition of

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'Substrate or surface'. All of the materials listed by Goldberg et al. are bulk materials, the exposed surface of which, Goldberg et al. are relying on for binding, not for adsorbing onto the surface, either with or without a silane coating. Moreover, Goldberg et al. disclose at Column 14, line 65 to Column 15, line 8 of USPN 6,203,989 B1, for example, using the same materials for a 'substrate' as they disclosed at Column 3, lines 34-39 for a 'surface'. Goldberg et al. disclose "**Substrates** having a surface to which arrays of polynucleotides are attached are referred to herein as 'biological chips'. The **substrate** may be, for example, silicon or glass, and can have the thickness of a microscope slide or glass cover slip. ... Other **substrates** include Langmuir Blodgett film, germanium, (poly)tetrafluorethylene, polystyrene, gallium arsenide, gallium phosphide, silicon oxide, silicon nitride, and combinations thereof." (Emphasis provided for the Examiner's convenience.)

According to Goldberg et al., polynucleotides are immobilized directly to the surface of the bulk material without any polymer coating being adsorbed onto the surface. While using a silane coating is disclosed at Column 14, lines 21-23, it is disclosed for immobilizing nucleic acids and not for adsorption of presynthesized DNA polymers. Goldberg et al. are still silent on whether the substrate or surface materials disclosed by them are capable of being adsorbed on each other such that one might be an adsorbed polymer on the surface of another. In fact, Goldberg et al. are completely silent on polymer adsorption on siliceous substrates. See Applicant's specification at page 13, lines 1-5 for 'Adsorbed polymer surfaces' and lines 12-13 for 'Siliceous substrate'. As used in Applicant's specification, 'polymer adsorption' means that an intact polymer solubilized in a solvent will adsorb onto a surface when in contact. This is a well-known definition of polymer adsorption to a surface. See Applicant's Specification at page 13, lines 4-5, which refers to website http://cmgm.stanford.edu/pbrown/protocols/1_slides.html for an example of adsorption of poly-l-lysine to glass microscope slides. Preferably, the intact polymer is completely solubilized in the solvent or solution and will adsorb spontaneously onto the substrate surface.

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A requirement for anticipation is that the single reference must teach each and every element as set forth in the claim, expressly or inherently. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). It is respectfully submitted that Goldberg et al. fail to disclose or suggest using an "adsorbed polymer surface on a siliceous substrate", as claimed by Applicant in Claim 20. However, the Examiner contended that the substrate or solid surface materials disclosed by Goldberg et al. are "well known in the art to be capable of *inherently* being adsorbed on each other" to overcome the lack of such disclosure or suggestion by Goldberg et al. of using "an adsorbed polymer surface on a siliceous substrate". In effect, the Examiner contended that the substrate or solid surface materials disclosed by Goldberg et al. have an *inherent characteristic* of being adsorbed on each other to render anticipated Applicant's "adsorbed polymer surface on a siliceous substrate". Applicant specifically traverses this contention and requests documentary evidence to support that the materials listed by Goldberg et al. are "well known in the art to be capable of *inherently* being adsorbed on each other". MPEP §2144.03, *E. Summary* states in part "It is never appropriate to rely solely on common knowledge in the art without evidentiary support in the record as the principal evidence upon which a rejection was based." *Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697; *Ahlert*, 424 F.2d at 1092, 165 USPQ 421. See also 37 CFR 1.104(c)(2)(b).

For example, none of Langmuir Blodgett film, glass, germanium, silicon, silicon oxide, silicon nitride, gallium arsenide and gallium phosphide is a 'polymer' whether it is known to be capable of being adsorbed on another of the listed materials or not. These materials are inorganic solids, generally crystalline in nature. For example, a Langmuir Blodgett film is simply a film comprised of a single monolayer of molecules or atoms, typically called a Langmuir. All of the materials listed by Goldberg et al. are bulk materials. Moreover, only glass and silicon oxide (but only in the form of silicon dioxide) from this list are 'siliceous' substrate materials, as defined by Applicant in Applicant's specification at page 13. Therefore, only (poly)tetrafluoroethylene and polystyrene from the Goldberg et al. list are 'polymer' candidates for the Examiner's

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contended 'inherent adsorption' on the glass or silicon oxide materials also from the Goldberg et al. list.

Polytetrafluoroethylene (hereinafter PTFE) is defined as a polymer that is highly resistant to action by chemicals and that has anti-stick properties and a low coefficient of friction. Since an adsorbed polymer is adsorbed on a siliceous substrate typically by electrostatic interaction or other noncovalent attachment means, and facilitates binding to nucleic acids by electrostatic interaction or other noncovalent means, it is submitted that PTFE is not well known or well recognized to those skilled in the art to inherently adsorb to a siliceous substrate surface and facilitate such binding, as contended by the Examiner. In particular, PTFE will not dissolve as a polymer in a solution and then spontaneously adsorb onto a surface as discrete polymer chains, as in polymer adsorption, to render PTFE as being 'inherently' adsorbed on a surface. Special conditions are required in an effort to possibly achieve adsorption that are not spontaneous and that are not generally recognized and as such, are outside the scope of what is an inherent characteristic of the PTFE material. For example, typically PTFE coated materials will form aggregates of about 100 nm or larger and these small particles will agglomerate onto the exposed surface. Even if you were able to get PTFE to form a 'good' film, e.g., approximately 1 polymer chain thick (i.e., for the purpose of providing a microarray binding surface), the PTFE would repel other materials that have a higher surface tension. Therefore, a PTFE film is not generally recognized as a surface for binding presynthesized polynucleotides.

This leaves the Examiner only polystyrene from the Goldberg et al. list of materials to provide the contended 'adsorbed polymer surface'. Both polystyrene and PTFE rely on surface tension for adhesion. However in accordance with the present invention, an adsorbed polymer does not rely on surface tension for adhesion, but instead relies on electrostatic interactions, as mentioned above. While theoretically one might achieve adsorption of either PTFE and polystyrene onto a rigid material, like a glass or silicon oxide material listed above, to achieve the adsorption would require special conditions and processing, such that the ability to adsorb on a surface is

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not an inherent characteristic of the polystyrene or PTFE. Moreover, for any adhesion to occur, each material (PTFE or polystyrene and the substrate) would have to have a specific value for its respective surface tension. For example, either PTFE or polystyrene in solution *must* have a lower surface tension than the siliceous substrate to allow either the PTFE or polystyrene material in solution to 'wet' to the siliceous substrate. Therefore, the surface tensions of the respective materials would have to be altered to achieve wetting. The 'wetting' of PTFE or polystyrene material onto the siliceous substrate allows the PTFE or polystyrene to spread on the siliceous substrate surface. The spreading is what forms a film or coating. The adhesion of an adsorbed polymer according to the present invention is based on electrostatic interactions, and is *not* a function of surface tension. Therefore, adsorption is not an inherent characteristic of PTFE or polystyrene.

More importantly, it should be noted that even if you were able to get PTFE or polystyrene to coat to a siliceous substrate material, an aqueous buffer that contains the DNA to be bound to the surface would *not* spread and wet the coated substrate. As a result, the DNA would *not* be bound to the surface and the microarray would have poor performance after a hybridization assay. Only with other additional modifications to the PTFE or polystyrene, e.g., possibly with strong chemical attack or e⁻ beam modification of the polymer coating, might the PTFE or polystyrene coating be rendered reactive toward the DNA to be bound. Such necessary modifications and alterations to achieve attachment using PTFE or polystyrene on a glass or a silicon oxide material do not render the materials disclosed by Goldberg et al. "well known in the art to be capable of *inherently* being adsorbed on each other", as contended by the Examiner.

Therefore, documentary evidence from the Examiner that polystyrene or polytetrafluoroethylene is well known to those skilled in the art to be adsorbed on a siliceous substrate is appropriately and respectfully requested. 37 CFR 1.104(c)(2)(b).

Moreover, the courts have held that the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of

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that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). Moreover, the courts have held "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted). Moreover, the Board has held "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). (The above citations and quotations are taken from MPEP §2112.)

Therefore, it is not enough for the Examiner to contend that it is "well known in the art" for the substrate or solid surface materials disclosed by Goldberg et al. "to be capable of inherently being adsorbed on each other". The Examiner must provide a basis in fact and/or technical reasoning to reasonably support such a contention before it can be shown that the allegedly inherent characteristic necessarily flows from the teachings of Goldberg et al. *Ex parte Levy*, cited *supra*. Applicant asserts herein that the contended inherent characteristic does not necessarily flow from the teachings of Goldberg et al. Nor does the contended inherent characteristic necessarily flow from what is well known in the art. It is respectfully submitted that a general statement that it is 'well known in the art' is not sufficient basis in fact and/or technical reasoning to overcome this requirement. Documentary evidence is respectfully requested for the reasons set forth herein.

Moreover, Goldberg et al. disclose using *a silane coating* coated on such solid surfaces as silicon or glass, prior to immobilization of the nucleic acid probes only at Column 14, lines 18-23. In particular, Goldberg et al. disclose "In one embodiment, the hybridization assay using a sulfonate buffer may be conducted with nucleic acid

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probes immobilized on a solid surface, such as a silicon or glass surface. The solid surface may be, for example, coated with a silane coating prior to immobilization of the nucleic acid probes." As stated in a previous Amendment by Applicant, it is well known to those skilled in the art that a silane coating is not a polymer coating that is adsorbed on the surface of a substrate. Instead, silane coatings are covalently attached to the substrate surface and moreover, provide a covalently attachment to oligonucleotide probes. In contrast, an adsorbed polymer is adsorbed on a surface by electrostatic interactions with the substrate or other noncovalent attachment means, for example. Moreover, oligonucleotides are immobilized on the surface by electrostatic interactions or other noncovalent attachment means with the adsorbed polymer as well. This is the definition of an adsorbed polymer that is understood and well-recognized by those skilled in the art.

Therefore, regardless of whether Goldberg et al. disclose using "silicon, glass, Langmuir Blodgett films, germanium, (poly)tetrafluorethylene, polystyrene, gallium arsenide, gallium phosphide, silicon oxide, silicon nitride, and combinations thereof" as the solid surface or substrate, and disclose using a silane coating coated on the solid surface in some embodiments, Goldberg et al. still fail to explicitly or implicitly disclose to one skilled in the art to use an "adsorbed polymer surface on a siliceous substrate", as claimed by Applicant in Claims 20-22, 25, 28, 31 and 50.

As stated above, the cited reference must disclose each and every limitation of the claimed invention in order to maintain an anticipation rejection. *In re Paulsen*, 30 F.3d 1475, 1478, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994). Moreover, it is not enough that the prior art reference discloses all the claimed elements in isolation. Rather, as stated by the Federal Circuit, anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention as arranged in the claim. *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984). In addition, the allegedly anticipating reference must be enabling and describe the claimed invention sufficiently to have placed it in possession of a person of ordinary skill in the art. *In re Paulsen, supra*, at

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1673. The anticipation determination is viewed from one of ordinary skill in the art. There must be no difference between the claimed invention and the reference disclosure as viewed by a person of ordinary skill in the field of the invention. *Scripps Clinic & Research Found. v. Genentech Inc.*, 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991).

It light of the above remarks, Goldberg et al. fail to disclose each and every feature of the present invention claimed in Applicant's Claims 20-22, 25, 28, 31 and 50 (*In re Paulsen*, cited *supra*.), such that there does exist a clear difference between the claimed invention and the reference disclosure as viewed by a person of ordinary skill in the field of the invention (*Scripps Clinic & Research Found. v. Genentech Inc.*, *supra*). Therefore, Goldberg et al. fail to anticipate, or even make obvious, Applicant's Claims 20-22, 25, 28, 31 and 50. Reconsideration and withdrawal of the 35 USC 102(a) rejection of Claims 20-22, 25, 28, 31 and 50 are respectfully requested.

Claims 23, 24 and 32-35 were rejected under 35 USC 103(a) over Goldberg et al. (USPN 6,203,989 B1) in view of Reynolds et al. (USPN 6,316,608 B1). The Examiner contended that Goldberg et al. teach the method of Claims 20-22, 25, 28 and 31 and 50. The Examiner further contended that Reynolds et al. teach a method wherein the adsorbed polymer surface comprises a polycationic polymer polyethylenediamine at Column 5, lines 22-49 of USPN 6,316,608 B1 of Reynolds et al. and further teach the step of transmitting data representing a result of the interrogation, as claimed in Applicant's Claims 23, 24 and 32-35, such that Claims 23, 24 and 32-35 are *prima facie* obvious. Applicant respectfully traverses this rejection.

As provided above, Goldberg et al. in fact fail to disclose the present invention, as claimed in Applicant's Claims 20-22, 25, 28, 31 and 50, contrary to that contended by the Examiner. Moreover, Applicant's Claims 20-22, 25, 28, 31 and 50 were not rejected for obviousness under 35 USC 103. Therefore, Applicant's Claims 20-22, 25, 28, 31 and 50 are allowable over Goldberg et al. Claims 23, 24 and 32-35 are ultimately dependent from Applicant's Claim 20 and include all of the limitations recited in Claim 20. If an independent claim is non-obvious under 35 U.S.C. 103, then

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any claim depending therefrom is non-obvious. *In re Fine*, 837, F.2d, 1071, 5 USPQ 2d, 1596 (Fed. Cir. 1988). Therefore, Claims 23, 24 and 32-35 are allowable over the teachings of Goldberg et al. in view of Reynolds et al. for at least the same reasons set forth above for the allowability of Applicant's Claim 20 over the teachings of Goldberg et al.

In addition, Applicant realized unexpectedly superior results, including decreased surface degradation and improved assay performance, in hybridization assays with the present invention. It was realized that a buffer composition comprising a pH within a range of pH 6.4 to 7.5, a non-chelating buffering agent that maintains the pH within the pH range, and a monovalent cation in a monovalent cation concentration ranging from about 0.01 M to about 2.0 M will provide unexpectedly better results during a hybridization assay at a hybridization temperature ranging from about 55°C to about 70°C, when used with a microarray of oligonucleotides bound to an adsorbed polymer surface on a siliceous substrate. These results are unexpectedly better than if a chelating buffering agent, such as SSPE or SSC, was used; if a pH less than pH 6.4 or greater than pH 7.5 was used; and/or if a monovalent cation in a concentration less than about 0.01M or greater than about 2.0M was used, in the buffer composition. Moreover, the results are unexpectedly better than if a non-chelating buffering agent was used at a pH less than 6.4 or greater than pH 7.5. The results are unexpectedly better since conditions outside of that claimed degraded the adsorbed polymer surface of the microarray during the assay and resulted in poor hybridization results at a high temperature ranging from about 55°C to about 70°C. Conditions outside of that claimed include the conventional chelating buffering agents, the pH outside the claimed range, and/or the monovalent cation concentration outside the claimed range used with the microarray having oligonucleotides bound to the adsorbed polymer surface of the siliceous substrate during the high temperature hybridization assay.

For example, the non-chelating buffering agent in the claimed buffer composition at a pH less than pH 6.4 will produce unacceptable destruction of the

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adsorbed polymer surface coating. The buffer composition at a lower limit of pH 6.6 is preferred. See Applicant's specification at page 22, line 25 to page 23, line 2, for example. In addition, such a buffer composition at a pH above an upper limit of pH 7.5 decreases the amount of observable hybridization, due to adsorbed polymer surface degradation. Such a buffer composition at an upper limit of pH 7.0 is preferred, with an upper limit of pH of 6.8 being more preferred, due to unexpectedly better hybridization results. In more preferred embodiments, the pH range is pH 6.6 to pH 6.8, since the best hybridization and surface stability was observed. See Applicant's specification at page 23, lines 2-11, for example.

Moreover, the non-chelating buffering agents (i.e., the buffering agent does not contain a carboxylic acid functionality and is not a phosphate-containing buffering agent) were found to maintain the stability of an adsorbed polymer surface on a siliceous substrate unexpectedly better than those buffering agents that included such chelating means (i.e., carboxylic acid or phosphate groups). See Applicant's specification at page 16, lines 12-19 and page 17, lines 16-19, for example. For example, sodium citrate buffers severely destabilize the adsorbed polymer surface under high temperature hybridization conditions. See Applicant's specification at page 18, lines 1-12, for example.

Still further, it was determined that an adsorbed polymer surface, such as a polycationic polymer surface, is stabilized by increasing cationic strength. Therefore, the buffer composition according to the present invention comprises a monovalent cation having a concentration ranging from about 0.01M to about 2.0M to maintain adsorbed polymer surface stability. Below a 'total cation concentration' of about 0.02M, the adsorbed polymer surface is unexpectedly destabilized and easily destroyed. Above about 2.0M of total cation concentration, interference with the hybridization assay was observed. The concentration of monovalent cation, and consequently, the total cation concentration are preferably within the range of about 0.01M to about 2.0M to maintain surface stability. More preferably, the total cation concentration in the buffer composition is about 750 mM and the buffer composition

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comprises Li-MES as the buffering agent to unexpectedly better maintain surface stability of the adsorbed polymer surface during high temperature hybridization assays. See Applicant's specification at page 18, line 13 to page 19, line 5, for example.

Applicant's specification at page 19, lines 9-30 further describes Applicant's claimed use of a chelating agent at a concentration of less than about 100 μM in some embodiments of the buffer composition. While a chelating agent is known for use to sequester divalent cations that stabilize nucleic acid tertiary structures, according to the present invention the chelating agent also unexpectedly participates in degrading the adsorbed polymer surface of the siliceous substrate. Delamination of the adsorbed polymer surface was observed at greater than about 500 μM of chelating agent. An unexpectedly more stable adsorbed polymer surface was observed at a chelating agent concentration of less than about 100 μM .

In light of the above remarks, reconsideration and withdrawal of the rejection of Claims 23, 24 and 32-35 are respectfully requested.

Claims 26-27 were rejected under 35 USC 103(a) over Goldberg et al. (USPN 6,203,989 B1) in view of Cohen, USPN 6,322,989 B1. The Examiner contended that Goldberg et al. teach the method of Claims 20-22, 25, 28, 31 and 50. The Examiner further contended that Cohen teaches a method, wherein the buffer composition further comprises an ionic surfactant SDS at a concentration ranging from about 0.01% to about 0.2% (w/v) at Column 19, lines 46-51 and Column 20, lines 1-5 of USPN 6,322,989 B1, as claimed in Applicant's Claims 26-27, such that Applicant's Claims 26-27 are *prima facie* obvious. Applicant respectfully traverses this rejection also.

As mentioned above, Goldberg et al. in fact fail to disclose the present invention as claimed in Claims 20-22, 25, 28, 31 and 50. Moreover, Claims 20-22, 25, 28, 31 and 50 were not rejected under 35 USC 103. Therefore, Applicant's Claims 20-22, 25, 28, 31 and 50 are allowable over Goldberg et al. Claims 26-27 are ultimately dependent from Applicant's Claim 20 and include all of the limitations recited in Claim 20. Therefore, Claims 26-27 are allowable over the teachings of Goldberg et al.

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in view of Cohen et al. for at least the same reasons set forth above for the allowability of Applicant's Claim 20 over the teachings of Goldberg et al. *In re Fine*, cited *supra*.

In addition, Applicant realized unexpected results using a buffer composition of the invention that further comprised an ionic surfactant in an amount, as claimed in Claims 26-27. These results are described in Applicant's specification at page 20, line 16 to page 21, line 18. For example, increasing the amount of surfactant and/or using some other surfactants had a negative effect on the stability of the adsorbed polymer surface, in particular when the adsorbed polymer surface comprised a polycationic polymer coating. For example, non-ionic surfactants, such as Triton X-100 and X-102, even in low concentrations, have a large negative effect on the stability of the adsorbed polymer surface. However, the claimed ionic surfactants in the claimed amounts unexpectedly better maintained the stability of the adsorbed polymer coating. This is so even though the claimed ionic surfactants, such as LLS, SDS and other aryl or alkyl sulfonate surfactants, used at concentrations above the claimed amount of about 0.1% (w/v) had a negative effect on stability of the adsorbed polymer surface.

Therefore, in light of the above remarks, reconsideration and withdrawal of the rejection of Claims 26-27 are respectfully requested.

Claims 29-30 were rejected under 35 USC 103(a) over Goldberg et al. (USPN 6,203,989 B1) in view of Cohen (USPN 6,322,989 B1) and further in view of McDonough et al. (USPN 6,252,059 B1). The Examiner contended that Goldberg et al. in view of Cohen teach the method of Claims 20-22, 25-28, 31 and 50. The Examiner further contended that McDonough et al. teach a method, wherein the buffer composition further comprises a monovalent cation LiCl at a concentration greater than or equal to 300 mM at Column 4, lines 2-10 and Column 8, lines 15-50 of USPN 6,252,059 B1, as claimed in Applicant's Claims 29-30, such that Claims 29-30 are *prima facie* obvious. Applicant respectfully traverses this rejection also.

As mentioned above, Goldberg et al. in fact fail to disclose the present invention as claimed in Claims 20-22, 25, 28, 31 and 50. Therefore, Applicant's Claims 20-22, 25, 28, 31 and 50 are allowable over the teachings of Goldberg et al. Moreover

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contrary to that contended by the Examiner, Applicant's Claims 20-22, 25, 28, 31 and 50 in fact were not rejected over Goldberg et al. in view of Cohen. Only Claims 26-27 were rejected under 35 USC 103(a) over Goldberg et al. in view of Cohen. Therefore, the Examiner has failed to contend or show that Claims 20-22, 25, 28, 31 and 50 were obvious over Goldberg et al. in view of Cohen. Claims 29-30 are ultimately dependent from Applicant's Claim 20 and include all of the limitations recited in Claim 20. Therefore, Claims 29-30 are allowable over the teachings of Goldberg et al. in view of Cohen et al. and further in view of McDonough et al. for at least the same reasons set forth above for the allowability of Applicant's Claim 20 over the teachings of Goldberg et al. *In re Fine*, cited *supra*.

In addition, Applicant described above the unexpectedly better results achieved by the invention using preferred materials and concentrations in some embodiments of the present invention. See for example, Applicant's specification at pages 19, lines 3-5 and lines 28-30, page 20, lines 11-15, and page 23, lines 4-8 and related text, as provided above, for support of the better results achieved.

In light of the remarks above, reconsideration and withdrawal of the rejection of Claims 29-30 are respectfully requested.

In summary, Claims 20-35 and 50 are pending and are rejected. It is submitted that Claims 20-35 and 50 are in condition for allowance. It is respectfully requested that Claims 20-35 and 50 be allowed, and that the application be passed to issue at an early date.

For the reasons set forth above, Applicant respectfully requests that the Examiner provide documentary evidence to support the Examiner's contention that the substrate materials disclosed by Goldberg et al. have an inherent characteristic of adsorption on each other should the Examiner decide not to allow Claims 20-35 and 50 at this time. It is respectfully submitted that it would be inappropriate for the Examiner issue an Advisory Action and ignore Applicant's request for such documentary evidence when the Examiner *first* raised the 'inherent characteristic' contention in the *Final* Office

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Action. By raising this issue on final action, Applicant is concerned that the remarks herein will not be given appropriate consideration. See MPEP §2144.03.

Should the Examiner have any questions regarding the above, please contact the undersigned at the telephone number listed below. If the Examiner's attempt to reach the undersigned is unsuccessful, the Examiner is requested to contact Gordon M. Stewart, Attorney for Applicant, Registration No. 30,528 at Agilent Technologies, Inc., telephone number (650) 485-2386.

Respectfully submitted,
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